

**A1**  
**Aspect Park Golf Course,**  
**Remenham, Henley, Berkshire**  
**ALC Map and Report**  
**June, 1994**

# AGRICULTURAL LAND CLASSIFICATION REPORT

## ASPECT PARK GOLF COURSE, REMENHAM, HENLEY, BERKSHIRE

### Introduction

- 1.1 ADAS was commissioned by MAFF's Land Use Planning Unit to provide information on the land quality of approximately 35 hectares of land adjacent to Aspect Park Golf Course at Remenham, east of Henley, in Berkshire. The site was the subject of an ad hoc planning application for an extension to the golf course.
- 1.2 An Agricultural Land Classification survey was carried out in June, 1994, by members of the Resource Planning Team in the Guildford Statutory Group of ADAS.
- 1.3 The survey was undertaken at a detailed level of approximately one boring per hectare. A total of 23 borings and two soil inspection pits were assessed in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on its use for agriculture.
- 1.4 At the time of the survey the northern block of agricultural land was under permanent grass and the southern block had been recently ploughed. The Non-agricultural areas shown are mostly woodland with some scrub and agricultural tracks. The details of the area measurements are given in the table below and shown on the attached ALC map. The map has been drawn at a scale of 1:10,000. It is accurate at this scale, but any enlargement would be misleading. This map supersedes any previous survey information for this site.

**Table 1 : Distribution of Grades and Subgrades**

Grade	Area (ha)	% of Site	% of Agricultural Area
2	14.1	40.4	51.6
3a	2.5	7.2	9.2
3b	10.7	30.6	<u>39.2</u>
Non Agricultural	6.7	19.2	<b>100% (27.3 ha)</b>
Agricultural Bldgs	<u>0.9</u>	<u>2.6</u>	
<b>Total</b>	<b>34.9 ha</b>	<b>100%</b>	

- 1.5 The agricultural land has been classified as Grade 2 (very good quality) in the north and a mixture of Subgrade 3a (good quality) and Subgrade 3b (moderate quality) in the south. The soils across the site are quite variable, particularly in the south. Here, soil wetness is the key limiting factor; heavy profiles with poorly

draining clay subsoils experience a significant soil wetness and soil workability limitation. In the north the profiles are generally lighter and free-draining but individual borings may be slightly wet or slightly droughty and, given this, the land is believed to be no better than Grade 2.

- 1.6 A general description of the grades, subgrades and land use categories is provided in Appendix I. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.

## 2. Climate

- 2.1 The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.
- 2.2 The main parameters used in the assessment of an overall climatic limitation are average annual rainfall, as a measure of overall wetness, and accumulated temperature, as a measure of the relative warmth of a locality. The combination of rainfall and temperature at this site mean that there is no overall climatic limitation.

**Table 2 : Climatic Interpolation**

Grid Reference	SU783825
Altitude (m, AOD)	95
Accumulated Temperature (°days, Jan-June)	1409
Average Annual Rainfall (mm)	717
Field Capacity Days	152
Moisture deficit, wheat (mm)	105
Moisture deficit, potatoes (mm)	97
Overall Climatic Grade	1

## 3. Relief

- 3.1 The site occupies flat or very gently sloping land at an altitude of 95-105 metres. Nowhere on the site do relief or gradient affect agricultural land quality.

## 4. Geology and Soils

- 4.1 The published geology map for the site area, (BGS Sheet 254 : Henley-on-Thames, 1905) shows the site to be underlain by a mixture of Upper Chalk and London Clay.

- 4.2 The published soils information for the area (SSEW 1983, Sheet 6, 1:250,000) shows the site to comprise the Frilsham association, described as shallow, well-drained fine loamy soils over Chalk.

## **5. Agricultural Land Classification**

- 5.1 The ALC classification of the site is shown on the attached ALC map.
- 5.2 The location of the soil observation points are shown on the attached sample point map.

### **Grade 2**

- 5.3 The northern land on the site has been placed in this grade as a result of the soil wetness and soil droughtiness that exists to varying degrees in this area. Some Grade 1 borings do occur (borings 2 and 8) but, generally, there is a slight wetness or droughtiness limitation which limits the flexibility of the land. The soils are lighter in topsoil texture than those to the south, generally being medium clay loams, but possess clay subsoils as does most of the site. The subsoils may be free-draining but occasionally, and especially near the Subgrade 3b boundary, show evidence of subsoil wetness in the form of gleying and slowly permeable layers. Given the variation, it has not been possible to pick out these wetter areas.
- 5.4 Some of the soils were impenetrable to the auger in the upper subsoil and there may be a variation in profile stone content in this map unit which would slightly affect the available water content. There is also a slightly disturbed area on the north-western fringe between borings 5 and 6 where the land is at a slightly lower level and the grass response is poor, and there was also an old farm track that crossed part of this land.

### **Subgrade 3a**

- 5.5 A small area of land in the south-east of the site has been placed in this grade with soil wetness as the key limitation. The soils in this map unit have similar physical characteristics to the adjacent Subgrade 3b land but are distinguished on the basis of a lighter topsoil texture (medium clay loam as opposed to heavy clay loam) and, therefore, a greater flexibility in terms of workability. See para 5.6 and borings 29 and 32 for details.

### **Subgrade 3b**

- 5.6 Most of the southern land on the site has been placed in this grade with soil wetness as the key limitation. Two soil pits have been described in this map unit. Both show soils that have been placed in Wetness Class III as a result of shallow slowly permeable layers (at approximately 45 cm) and associated shallow gleying (mostly below 40cm but occasionally above). The slowly permeable layers relate

to clays with angular blocky structures. Pit 1, in particular, showed the SPLs starting higher than anticipated based on augering alone and with a more marked degree of gleying. Ped faces were clearly pale with good ped skins, with clear evidence of mottling and manganese concretions. The matrix colours in these soils were often difficult to describe down the auger, being in the 10YR54-53 range (and their 7.5YR equivalents), but the exposure in the pit confirmed both a pale matrix and pale ped faces; the soils are not generally 'slightly gleyed' they are 'gleyed'. The combination of Wetness Class and topsoil texture (heavy clay loam) restricts this land to Subgrade 3b, given the prevailing field capacity level (152 days).

- 5.7 The soils in this unit are variable. Individual borings of Grade 2 have been described (see borings 22 and 33) but are placed in the lower grade because of the variation over short distances. One of the variations is in the depth to layers of clay with high percentages of Chalk (see ASPs 23 and 26). These particular soils often have clay upper subsoils which are Chalk-free and which show impaired drainage but the clays are not thick enough to qualify as slowly permeable. Another variation is in the topsoil texture. Generally, the topsoils are heavy clay loam but they may range into clay.
- 5.8 Pit 2 has been placed in this grade even though it is technically classified as Subgrade 3a. As with the adjacent Subgrade 3b land, soil wetness is the key limitation. The description of the pit is similar to the adjacent borings (see ASPs 16, 20 and 21) with the important exception of a lighter topsoil (medium clay loam). To the north, the soils are either free-draining or have deeper SPLs and it was therefore decided to include the land at Pit 2 in the Subgrade 3b map unit; it is not possible to distinguish a separate area of Subgrade 3a wetness here.

ADAS Ref: 0206/108/94  
MAFF Ref: EL 33/461

Resource Planning Team  
Guildford Statutory Group  
ADAS Reading

## APPENDIX I

### DESCRIPTION OF THE GRADES AND SUBGRADES

#### **Grade 1 : Excellent Quality Agricultural Land**

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

#### **Grade 2 : Very Good Quality Agricultural Land**

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

#### **Grade 3 : Good to Moderate Quality Land**

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

#### **Subgrade 3a : Good Quality Agricultural Land**

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

#### **Subgrade 3b : Moderate Quality Agricultural Land**

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

#### **Grade 4 : Poor Quality Agricultural Land**

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (eg. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

#### **Grade 5 : Very Poor Quality Agricultural Land**

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

**Urban**

Built-up or 'hard' uses with relatively little potential for a return to agriculture including: housing, industry, commerce, education, transport, religious buildings, cemeteries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

**Non-agricultural**

'Soft' uses where most of the land could be returned relatively easily to agriculture, including: private parkland, public open spaces, sports fields, allotments and soft-surfaced areas on airports. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

**Woodland**

Includes commercial and non-commercial woodland. A distinction may be made as necessary between farm and non-farm woodland.

**Agricultural Buildings**

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (eg. polythene tunnels erected for lambing) may be ignored.

**Open Water**

Includes lakes, ponds and rivers as map scale permits.

**Land Not Surveyed**

Agricultural land which has not been surveyed.

Where the land use includes more than one of the above, eg. buildings in large grounds, and where map scale permits, the cover types may be shown separately. Otherwise, the most extensive cover type will be shown.

## APPENDIX II

### REFERENCES

British Geological Survey (1905), Sheet Number 254, Henley-on-Thames, 1:63,360.

MAFF (1988), Agricultural Land Classification of England and Wales : Revised Guidelines and Criteria for Grading the Quality of Agricultural Land.

Meteorological Office (1989), Climatological Data for Agricultural Land Classification.

Soil Survey of England and Wales (1983), Sheet Number 6, Soils of South East England, 1:250,000.

Soil Survey of England and Wales (1984), Soils and their Use in South East England, Bulletin Number 15.



## APPENDIX III

### DEFINITION OF SOIL WETNESS CLASS

#### **Wetness Class I**

The soil profile is not wet within 70 cm depth for more than 30 days in most years.

#### **Wetness Class II**

The soil profile is wet within 70 cm depth for 31-90 days in most years **or**, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for 31-90 days in most years.

#### **Wetness Class III**

The soil profile is wet within 70 cm depth for 91-180 days in most years **or**, if there is no slowly permeable layer present within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31-90 days in most years.

#### **Wetness Class IV**

The soil profile is wet within 70 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years **or**, if there is no slowly permeable layer present within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.

#### **Wetness Class V**

The soil profile is wet within 40 cm depth for 211-335 days in most years.

#### **Wetness Class VI**

The soil profile is wet within 40 cm depth for more than 335 days in most years.

## APPENDIX IV

### SOIL PIT AND SOIL BORING DESCRIPTIONS

**Contents :**

**Sample Point Map**

***Soil Abbreviations - explanatory note***

**Database Printout - soil pit information**

**Database Printout - boring level information**

**Database Printout - horizon level information**

## SOIL PROFILE DESCRIPTIONS : EXPLANATORY NOTE

Soil pit and auger boring information collected during ALC fieldwork is held on a database. This has commonly used notations and abbreviations as set out below.

### Boring Header Information

1. **GRID REF** : national grid square and 8 figure grid reference.

2. **USE** : Land use at the time of survey. The following abbreviations are used.

**ARA** : Arable    **WHT** : Wheat    **BAR** : Barley    **CER** : Cereals    **OAT** : Oats    **MZE** : Maize    **OSR** : Oilseed rape  
**BEN** : Field Beans    **BRA** : Brassicae    **POT** : Potatoes    **SBT** : Sugar Beet    **FCD** : Fodder Crops    **LIN** : Linseed  
**FRT** : Soft and Top Fruit    **HRT** : Horticultural Crops    **PGR** : Permanent Pasture    **LEY** : Ley Grass    **RGR** : Rough Grazing  
**SCR** : Scrub    **CFW** : Coniferous Woodland    **DCW** : Deciduous Woodland    **HTH** : Heathland    **BOG** : Bog or Marsh  
**FLW** : Fallow    **PLO** : Ploughed    **SAS** : Set aside    **OTH** : Other

3. **GRDNT** : Gradient as measured by a hand-held optical clinometer.

4. **GLEY/SPL** : Depth in cm to gleying or slowly permeable layers.

5. **AP (WHEAT/POTS)** : Crop-adjusted available water capacity.

6. **MB (WHEAT/POTS)** : Moisture Balance.

7. **DRT** : Best grade according to soil droughtiness.

8. If any of the following factors are considered significant, an entry of 'Y' will be entered in the relevant column.

**MREL** : Microrelief limitation    **FLOOD** : Flood risk    **EROSN** : Soil erosion risk    **EXP** : Exposure limitation    **FROST** : Frost  
**DIST** : Disturbed land    **CHEM** : Chemical limitation

9. **LIMIT** : The main limitation to land quality. The following abbreviations are used.

**OC** : Overall Climate    **AE** : Aspect    **EX** : Exposure    **FR** : Frost Risk    **GR** : Gradient    **MR** : Microrelief  
**FL** : Flood Risk    **TX** : Topsoil Texture    **DP** : Soil Depth    **CH** : Chemical    **WE** : Wetness    **WK** : Workability  
**DR** : Drought    **ER** : Soil Erosion Risk    **WD** : Combined Soil Wetness/Droughtiness    **ST** : Topsoil Stoniness

### Soil Pits and Auger Borings

1. **TEXTURE** : soil texture classes are denoted by the following abbreviations.

**S** : Sand    **LS** : Loamy Sand    **SL** : Sandy Loam    **SZL** : Sandy Silt Loam    **CL** : Clay Loam    **ZCL** : Silty Clay Loam  
**SCL** : Sandy Clay Loam    **C** : Clay    **SC** : Sandy Clay    **ZC** : Silty Clay    **OL** : Organic Loam    **P** : Peat    **SP** : Sandy Peat  
**LP** : Loamy Peat    **PL** : Peaty Loam    **PS** : Peaty Sand    **MZ** : Marine Light Silts

For the sand, loamy sand, sandy loam and sandy silt loam classes, the predominant size of sand fraction will be indicated by the use of prefixes.

**F** : Fine (more than 66% of the sand less than 0.2mm)  
**M** : Medium (less than 66% fine sand and less than 33% coarse sand)  
**C** : Coarse (more than 33% of the sand larger than 0.6mm)

The clay loam and silty clay loam classes will be sub-divided according to the clay content.

**M** : Medium (< 27% clay)    **H** : Heavy (27-35% clay)

2. MOTTLE COL : Mottle colour

3. MOTTLE ABUN : Mottle abundance, expressed as a percentage of the matrix or surface described.

F : few <2%    C : common 2-20%    M : many 20-40    VM : very many 40% +

4. MOTTLE CONT : Mottle contrast

F : faint - indistinct mottles, evident only on close inspection    D : distinct - mottles are readily seen  
P : prominent - mottling is conspicuous and one of the outstanding features of the horizon

5. PED. COL : Ped face colour

6. STONE LITH : One of the following is used.

HR : all hard rocks and stones    MSST : soft, medium or coarse grained sandstone  
SI : soft weathered igneous or metamorphic    SLST : soft oolitic or dolimitic limestone  
FSST : soft, fine grained sandstone    ZR : soft, argillaceous, or silty rocks    CH : chalk  
GH : gravel with non-porous (hard) stones    GS : gravel with porous (soft) stones

Stone contents (> 2cm, > 6cm and total) are given in percentages (by volume).

7. STRUCT : the degree of development, size and shape of soil pedes are described using the following notation:

- degree of development    WK : weakly developed    MD : moderately developed    ST : strongly developed

- ped size    F : fine    M : medium    C : coarse    VC : very coarse

- ped shape    S : single grain    M : massive    GR : granular    AB : angular blocky    SAB : sub-angular blocky    PR : prismatic  
PL : platy

8. CONSIST : Soil consistence is described using the following notation:

L : loose    VF : very friable    FR : friable    FM : firm    VM : very firm    EM : extremely firm    EH : extremely hard

9. SUBS STR : Subsoil structural condition recorded for the purpose of calculating profile droughtiness.

G : good    M : moderate    P : poor

10. POR : Soil porosity. If a soil horizon has less than 0.5% biopores > 0.5 mm, a 'Y' will appear in this column.

11. IMP : If the profile is impenetrable a 'Y' will appear in this column at the appropriate horizon.

12. SPL : Slowly permeable layer. If the soil horizon is slowly permeable a 'Y' will appear in this column.

13. CALC : If the soil horizon is calcareous, a 'Y' will appear in this column.

14. Other notations

APW : available water capacity (in mm) adjusted for wheat

APP : available water capacity (in mm) adjusted for potatoes

MBW : moisture balance, wheat

MBP : moisture balance, potatoes

SOIL PIT DESCRIPTION

Site Name : REMENHAM GOLF, HENLEY Pit Number : 1P

Grid Reference: su785 820 Average Annual Rainfall : 717 mm  
 Accumulated Temperature : 1409 degree days  
 Field Capacity Level : 152 days  
 Land Use : Ploughed  
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	HCL	10YR42 00	2	4	HR					
28- 45	C	10YR53 00	0	2	HR		MCSAB	FR	M	
45- 80	C	10YR53 54	0	0		M	WCAB	FR	M	

Wetness Grade : 3B Wetness Class : III  
 Gleying : 045 cm  
 SPL : 045 cm

Drought Grade : 3A APW : 107mm MBW : 2 mm  
 APP : 115mm MBP : 18 mm

FINAL ALC GRADE : 3B  
 MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : REMENHAM GOLF, HENLEY Pit Number : 2P

Grid Reference: su78358235 Average Annual Rainfall : 717 mm  
 Accumulated Temperature : 1409 degree days  
 Field Capacity Level : 152 days  
 Land Use : Permanent Grass  
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 30	MCL	10YR42 00	2	4	HR					
30- 42	C	10YR53 00	0	7	HR	C	MCSAB	FM	M	
42- 65	C	25Y 62 00	0	2	HR	C	MCAB	FM	P	

Wetness Grade : 3A Wetness Class : III  
 Gleying : 030 cm  
 SPL : 042 cm

Drought Grade : 3A APW : 090mm MBW : -15 mm  
 APP : 099mm MBP : 2 mm

FINAL ALC GRADE : 3A  
 MAIN LIMITATION : Wetness

SAMPLE NO.	GRID REF	ASPECT USE	--WETNESS--				-WHEAT-		-POTS-		M.REL		EROSN	FROST	CHEM	ALC	COMMENTS
			GRDNT	GLEY	SPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	LIMIT	
1P	su785 820	PLO		045	045	3	3B	107	2	115	18	3A			WE	3B	
2	su782 827	PGR		000		1	1	153	48	115	18	1				1	NOGLEY
2P	su78358235	PGR		030	042	3	3A	090	-15	099	2	3A			WE	3A	3B mapunit
4	su784 827	PGR		000		1	1	097	-8	102	5	3A			DR	2	IMP60X2
5	su780 826	PGR		000		1	1	067	-38	067	-30	3B			DR	3A	IMP40X2
6	su781 826	PGR	E	02	000		1	1	061	-44	061	-36	3B		DR	3A	IMP35X3
8	su783 826	PGR			000		1	1	138	33	115	18	1			1	NOGLEY
9	su784 826	PGR			085		1	1	121	16	120	23	2		DR	2	IMPNOGLY
11	su782 825	PGR			040	050	3	3A	098	-7	110	13	3A		WE	3A	SPL
13	su784 825	PGR			000		1	1	110	5	118	21	2		DR	2	IMPNOGLY
16	su783 824	PGR			042	042	3	3B		0		0			WE	3B	
17	su784 824	PGR			065	065	2	2	103	-2	115	18	3A		WE	2	poss ppf
18	su781 823	PGR	NE	02	000	055	3	3B	099	-6	112	15	3A		WE	3B	
19	su782 823	PGR			058	058	2	2	110	5	115	18	2		WK	2	
20	su783 823	PGR			042	042	3	3B	090	-15	096	-1	3A		WE	3B	SPL
21	su784 823	PGR			000		3	3b	068	-37	068	-29	3B		WE	3B	IMPseeP2
22	su783 822	PLO			000		1	2	110	5	115	18	2		WK	2	NOGLEY
23	su784 822	PLO			000		1	3A	081	-24	082	-15	3B		WK	3A	IMP
25	su784 821	PLO			060	060	2	3A	102	-3	109	12	3A		WE	3B	SPL
26	su785 821	PLO			042		1	2	096	-9	110	13	3A		WK	2	IMPNO SPL
29	su786 820	PLO			050		1	2	000	0	000	0			WK	2	IMPNO SPL POSSPP
30	su774 829	PLO			050	050	3	3B	106	1	110	13	3A		WE	3B	SPL
31	su825 779	PLO			060	060	2	3A	102	-3	113	16	3A		WE	3A	SPL POSSPPF
32	su826 779	PLO			050	050	3	3A	106	1	111	14	3A		WE	3A	POSS PPF
33	su824 778	PLO			000		1	2	099	-6	113	16	3A		DR	2	IMPNOGLY

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES----			STRUCT/		SUBS		CALC
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH	TOT	CONSIST	STR	POR	
1P	0-28	hc1	10YR42 00						2	0	HR	4				
	28-45	c	10YR53 00						0	0	HR	2	MCSAB	FR	M	Y
	45-80	c	10YR53 54	10YR56 00	M		10YR53 00	Y	0	0		0	WCAB	FR	M	Y
2	0-25	mc1	10YR42 00						0	0	HR	2				
	25-50	hc1	10YR54 00						0	0	HR	2			M	
	50-120	hc1	75YR44 00						0	0		0			M	
2P	0-30	mc1	10YR42 00						2	0	HR	4				
	30-42	c	10YR53 00	10YR56 00	C		00MN00 00	Y	0	0	HR	7	MCSAB	FM	M	Y
	42-65	c	25Y 62 00	10YR68 00	C		25Y 63 00	Y	0	0	HR	2	MCAB	FM	P	Y
4	0-28	mzc1	10YR42 00						0	0	HR	2				
	28-60	hc1	10YR43 00						0	0	HR	2			M	
5	0-25	hc1	10YR42 00						0	0	HR	5				
	25-40	c	10YR54 00						0	0	HR	5			M	
	40-41	hc1	10YR54 00						0	0	HR	5			M	
6	0-25	mzc1	10YR43 00						0	0	HR	5				
	25-35	hc1	10YR54 00						0	0	HR	5			M	
8	0-28	mc1	10YR42 00						0	0	HR	2				
	28-45	hc1	10YR43 00						0	0	HR	5			M	
	45-120	c	75YR46 00	000C00 00	F				0	0	HR	2			M	
9	0-28	mzc1	10YR42 00						0	0	HR	2				
	28-45	mzc1	10YR43 00						0	0	HR	2			M	
	45-60	hc1	10YR43 00						0	0	HR	2			M	
	60-85	c	75YR44 00						0	0	HR	2			M	
	85-90	c	10YR53 56	000C00 00	C		00MN00 00	Y	0	0	HR	2			P	Y
11	0-28	mc1	10YR42 00						0	0	HR	2				
	28-40	hc1	10YR43 00						0	0	HR	2			M	
	40-50	c	10YR53 00	000C00 00	C			Y	0	0	HR	1			M	
	50-70	c	10YR53 00	000C00 00	M			Y	0	0		0			P	Y
13	0-28	mzc1	10YR42 00						0	0	HR	2				
	28-60	c	75YR46 00				00MN00 00		0	0	HR	2			M	
	60-80	c	75YR46 00	000C00 00	F		00MN00 00		0	0	HR	2			M	
16	0-25	hc1	10YR42 00	000C00 00	F				0	0	HR	2				
	25-42	c	10YR43 00	000C00 00	F				0	0	HR	2			M	
	42-60	c	10YR53 54	000C00 00	C		00MN00 00	Y	0	0	HR	2			P	Y
17	0-30	mc1	10YR42 00						0	0	HR	2				
	30-50	hc1	10YR43 00						0	0	HR	2			M	
	50-65	c	10YR54 00	000C00 00	F				0	0		0			M	
	65-80	c	10YR54 64	000C00 00	C		00MN00 00	Y	0	0		0			P	Y



SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----			PED COL.	----STONES----			STRUCT/ CONSIST	SUBS					
				COL	ABUN	CONT		GLY	>2	>6		LITH	TOT	STR	POR	IMP	SPL
18	0-28	hc1	10YR52 00 000C00 00 M					Y	2	0	HR	2					
	28-55	c	10YR54 64 000C00 00 C					Y	0	0		0		M			
	55-70	c	10YR54 64 000C00 00 M					Y	0	0		0		P	Y		Y
19	0-28	mzc1	10YR42 00						0	0	HR	2					
	28-58	hc1	10YR54 00						0	0	HR	1		M			
	58-80	c	25Y 62 00 000C00 00 M					Y	0	0		0		P	Y		Y
20	0-30	hc1	10YR42 00						0	0	HR	2					
	30-42	c	10YR54 00 000C00 00 F						0	0		0		M			
	42-60	c	10YR53 00 000C00 00 C					Y	0	0		0		P	Y		Y
21	0-30	hc1	10YR42 00						0	0	HR	2					
	30-40	c	10YR54 00						0	0	HR	5		M			
22	0-30	hc1	10YR32 00						1	0	HR	3					
	30-65	c	25Y 44 00						0	0	HR	2		M			
	65-75	c	25Y 52 00						0	0	CH	20		M			
	75-85	ch	00XX00 00						0	0		0		P			
23	0-28	c	10YR42 00						2	0	HR	4					
	28-40	c	10YR54 00						0	0	HR	2		M			
	40-45	c	10YR54 00						0	0	CH	20		M			
	45-55	ch	00ZZ00 00						0	0		0		P			
25	0-30	c	10YR42 00						2	0	HR	4					
	30-50	c	10YR43 00						0	0	HR	2		M			
	50-60	c	10YR54 00 000C00 00 F						0	0	HR	1		M			
	60-80	c	10YR53 00 000C00 00 M					Y	0	0		0		P	Y		Y
26	0-30	hc1	10YR42 00						4	0	HR	5					
	30-42	c	10YR43 00						0	0	HR	2		M			
	42-50	c	10YR54 00 000C00 00 C					Y	0	0	HR	1		P	Y		
	50-70	c	10YR54 00						0	0	CH	20		M			
29	0-30	mc1	10YR42 00						2	0	HR	2					
	30-50	c	75YR56 00						0	0	HR	1		M			
	50-60	c	75YR56 00 000C00 00 M					<i>SX</i>	0	0	HR	1		P	Y		
	60-80	c	10YR56 00						0	0	CH	20		M			
30	0-32	hc1	10YR42 00						2	0	HR	4					
	32-50	c	75YR46 00						0	0	HR	2		M			
	50-68	c	10YR53 00 000C00 00 C					00MN00 00	Y	0	0	0		P	Y		Y
	68-80	c	25Y 52 00						Y	0	0	CH	20		M		Y
31	0-30	hc1	10YR42 00						2	0	HR	4					
	30-60	c	10YR56 00 000C00 00 F						0	0	HR	1		M			
	60-75	c	25Y 54 00 000C00 00 C					<i>SX</i>	0	0		0		P	Y		Y

SAMPLE	DEPTH	TEXTURE	COLOUR	-----MOTTLES-----			PED		-----STONES-----			STRUCT/ CONSIST	SUBS				
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH		TOT	STR	POR	IMP	SPL
32	0-30	mc1	10YR42 00						0	0	HR	2					
	30-50	c	75YR46 00	000C00	00	F	00MN00	00	0	0	HR	1		M			
	50-70	c	10YR54 53	000C00	00	C	00MN00	00	Y	0	0	0		P	Y		Y
	70-80	c	10YR56 00						0	0	CH	20		M			Y
33	0-28	hc1	10YR42 00						2	0	HR	4					
	28-55	c	10YR54 00	000C00	00	F			0	0	HR	2		M			
	55-70	c	25Y 56 00						0	0	CH	20		M			